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ABSTRACT

The compilation of research in agricultural education includes abstracts of 46 studies reported during 1972-73 in 9 of the 13 States of the central region. The abstracts were provided by teacher education institutions and State departments of education in the region. All studies reported are available for loan from university libraries, departments of agricultural education in universities, or State departments of vocational and technical education. Studies are arranged alphabetically by author and indexed by subject. Broad subject headings in the index are: Administration and Supervision; Advisory Councils; Curriculum; Educational Programs; Evaluation; Guidance, Counseling, and Testing; Learning Processes and Teaching Methods; Manpower and Competency Needs and Employment Opportunities; and Teacher Education. A list of studies in progress in 1973-74 is also included. (Author/AJ)

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SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION

CENTRAL REGION

1972-1973

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An Annotated Bibliography of Studies in

Agricultural Education

The Department of Vocational and Technical Education

Division of Agricultural Education

University of Illinois, Urbana-Champaign

December, 1973

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1972-73

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INTRODUCTION

This compilation of research in agricultural education includes abstracts of 46 studies reported during 1972-73 in 9 of the 13 states of the Central Region. This compares with 76 studies reported last year, 83 the year before, 103 in 1970, 82 in 1969, 66 in 1968, and 55 in 1967. Studies are arranged alphabetically by author and indexed by subject. A list of studies in progress in 1973-74 is also included.

Abstracts of research completed in 1972-73 were reported by teacher education institutions and state departments of education in the region. All studies reported are available for loan from university libraries, departments of agricultural education in universities, or state departments of vocational and technical education.

This compilation of abstracts of research in agricultural education is an activity of the Research Committee of the Agricultural Education Division of the American Vocational Association.

Hollie B. Thomas
Central Regional Representative
Research Committee
Agricultural Education Division
American Vocational Association

December 1973

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1. ALLISON, Leslie Bruce, The Importance of A Proposed List of Policies for Cooperative Programs in Agricultural Education for Kansas. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the importance of a list of proposed policies for cooperative programs in agriculture for Kansas. The study was designed to identify policies for cooperative programs and allow for recommendations of adoption or non-adoption.

Method. The instrument used to gather information needed for this study was a questionnaire which contained 45 proposed policy statements. The policy statements were grouped into the following areas for evaluation in this study: 1. Selection of students; 2. Student placement; 3. Selection of training stations and placement of students; 4. Related classroom instruction; 5. On-the-job instruction; 6. Administrative procedures and; 7. Advisory, promotion, and evaluation procedures.

Nineteen teachers and the nine state staff members responded to the importance for each policy on the questionnaire by choosing one of the five possible responses. The responses and their values were used to obtain weighted averages as follows: No, should not be adopted as a local policy, 0 points; Undecided as to whether policy should be adopted, 1 point; Yes, may be adopted, 2 points; Yes, should be adopted, 3 points; Yes, must be adopted, 4 points. In analyzing the ratings, guidelines were developed to assess the importance of each policy statement for conducting cooperative programs in agriculture. Policy statements with sum averages between 3.51 to 4.00 were considered to be in a category "must be" adopted; 3.01 to 3.50 sum averages were considered "should be" adopted; 2.51 to 3.00 sum averages were considered to "need more study".

Findings. There were ten policy statements that were ranked in the "must be" adopted category of 3.51 to 4.00. Fifteen of the policy statements were ranked in the "should be" category with sum averages of 3.01 to 3.50. Twenty policy statements were ranked in the "need more study" category and had sum averages of 2.51 to 3.00 or had a difference of .50 or more between the weighted averages given the policy statement by the two groups in the population.

The policies which were grouped in the areas of selection of students, administrative procedures, and on-the-job instruction received higher importance ratings than those grouped in the areas of advisory, promotion, and evaluation; related classroom instruction; selection of students; and student placement.

The author concluded that there was substantial agreement between the vocational agriculture teachers and the state staff members since there was less than .50 difference between the importance ratings for 39 of the 45 policy statements for the two groups. The author recommended that more research and study be implemented in the area of policy development for

cooperative programs in agriculture as follows: (1) Cooperating businesses should be surveyed to determine their opinions relating to policy matters; (2) Administrators having cooperative programs in their school systems under their administration should be questioned as to valuable policies; (3) Teachers with experience in conducting cooperative programs in agriculture and state staff members should participate in a workshop to study and revise the policies which were identified by this study to "need more study".

2. ANDERSON, Michael Andrew, A Determination of Instructional Commonalities in Agricultural Occupations in the Fargo-West Fargo, North Dakota, Metropolitan Area. Collocuium Paper, M.S. 1973, North Dakota State University. 61p., Department of Agricultural Education, North Dakota State University, Fargo.

Purpose. To determine occupational commonalities in selected agribusiness occupations in the Fargo and West Fargo metropolitan area through the evaluation of agricultural competency clusters on the basis of importance for job entry employment.

Method. The writer submitted a proposed survey instrument containing 44 competency clusters representing six broad subject areas within the field of agriculture to two teacher-educators and three agribusinessmen for review. The revised questionnaire was mailed to 74 area agribusiness managers for evaluation of the 44 competency clusters on the basis of importance for job entry employment in their businesses.

Findings and Interpretations. Competency clusters in the area of agribusiness management and marketing were considered important for job entry employment by more of the 74 agribusiness managers than were other clusters included in the study. The one competency cluster evaluated important by the largest number of managers was that of human relations. Skill-type competency clusters were not commonly important for job entry to the majority of management representatives participating in the study. The type of competency cluster regarded most commonly by the managers to be necessary or useful for job entry employment were those clusters dealing with a person's ability to relate and to get along with others.

3. ASCHE, Wayne E., Development and Testing of an Environmental Attitude Scale, Ph.D. Study, Library--Purdue University, 1972.

Purpose: To develop an attitude scale based on fundamental environmental concepts.

Method. An environmental unit was developed as the experimental treatment to use in a pretest -- posttest control group design using vocational and non-vocational students. All classes in the Tippecanoe County School Corporation were included in the population and classes were randomly selected and assigned to experimental and control groups. The pretest was given, the unit taught, and the posttest was administered.

Findings. Analysis of variance found 20 of the 46 items significant at the .01 level. An additional 11 items showed gain scores on the experiment. A comparison of gain scores for the vocational and nonvocational control groups showed a significant difference. All other comparisons failed to show significant differences.

4. BLCKER, James Leo, A Study of Illinois Junior College Agricultural Mechanics Students: Identification of Selected Characteristics and Their Prediction of Training and Occupational Success. Ed.D., Thesis, 1972. Library, University of Illinois, Urbana.

Purpose. To determine the relationships between selected characteristics of high school graduates and training success in a junior college agricultural mechanics curriculum; to identify selected characteristics of high school graduates having predictive value for training success in an agricultural mechanics curriculum; and to determine the relationship between selected characteristics of high school graduates who have completed a two-year junior college agricultural mechanics program in Illinois and occupational success in agricultural mechanics and related occupations.

Procedure. The population consisted of all students entering an agricultural mechanics curriculum at Illinois junior colleges meeting these criteria: (1) the junior college had an agricultural mechanics curriculum approved by the Illinois Junior College Board and (2) the curriculum began not later than September of 1967. Five junior colleges met these criteria.

The sample of 323 students consisted of 80 percent of each college's agricultural mechanics graduates and 80 percent of its agricultural mechanics dropouts.

Two data recording sheets were constructed. They were: (1) Student Record Inventory and (2) Employer Rating Questionnaire.

The following information was gathered from the students' college records and was recorded on the Student Record Inventory: size of high school at graduation, percentile rank in high school graduating class, years of high school agricultural occupations courses completed, ACT standard scores, ACT self-reported high school grades, presence or absence of a vocational choice in the ACT student profile, relationship of vocational choice to agricultural mechanics, cumulative college GPA, agricultural mechanics GPA, and student outcome after enrolling in an agricultural mechanics curriculum (graduate or dropout).

The Employer Rating Questionnaire was used to measure the employer's rating of occupational success for an agricultural mechanics graduate. Two ratings of occupational success were measured, quality of work and quantity of work.

Stepwise regression, t-test, and correlations were used to analyze the data. The results of the analyses were used to test eight hypotheses.

Findings and Conclusions. The high dropout rate from junior college occupational programs was the major concern of this study. The predictive

value of selected variables for training and occupational success was investigated. Results of the study indicated that: (1) size of high school at graduation was significantly negatively related to training success scores of dropouts but had practically no relationship to training success scores of graduates, (2) size of high school at graduation did not contribute significantly to the prediction of training success scores of graduates or dropouts, (3) graduates came from significantly smaller high schools than dropouts and earned significantly higher training scores than dropouts, (4) rank in high school graduating class showed the highest relationship to training success scores of both groups of all variables studies, (5) rank in high school graduating class was the best single predictor of training success scores for both groups, (6) number of years of high school agricultural occupations courses completed was significantly related to training success scores of dropouts but had practically no relationship to those scores of graduates, (7) number of years of high school agricultural occupations courses completed was of limited value in predicting training success scores, (8) composite ACT standard score was significantly related to training success scores of both groups, second only to rank in high school graduating class of the variables studied, (9) ACT standard scores were significantly related to training success scores but were not good predictors of those scores, (10) self-reported high school grades were related to training success scores but were not good predictors of those scores, (11) graduates were more certain of their vocational goals than dropouts, (12) graduates selected a vocational choice related to agricultural mechanics in significantly greater numbers than dropouts, (13) cumulative college GPA and agricultural mechanics GPA were the only variables which were significantly related to occupational success ratings, and (14) cumulative college GPA was the only good predictor of occupational success ratings of the variables studied.

5. BENTON, Ralph A., A Study of the Methods and Procedures used in Training Teachers of Agricultural Occupations. Staff study, 1973. Department of Agricultural Industries, Southern Illinois University, Carbondale.

Purpose. To determine what changes have taken place in recent years in the methods and requirements of training agricultural occupations teachers.

Method. Data were secured by means of a questionnaire which was used in a personal interview with personnel in 17 agricultural education teacher training departments. Twenty-three departments responded to a mailed questionnaire. The 40 participating universities represented all regions of the United States.

Findings. Most trainees were required to have minimum hours in animal science, plant and soil science, agricultural mechanics, and agricultural economics. Approximately one-third of the total required hours in agriculture were elective and could be used in developing a specialty.

Of the nonvocational education courses, educational psychology was the most required (85.0 percent of departments). All 40 departments required courses in vocational education including methods and student teaching. Semester schools average 3.6 hours in methods and quarter system schools required an average of 4.2 hours. Forty-five percent of the schools were

giving at least some instruction in the methods of organizing a cooperative work experience program.

All student teachers averaged 9.6 weeks of student teaching. Those in the semester system received 8.2 hours of credit and those in the quarter system received 12.6 hours. An average of 2.8 visits per student teacher were made by the supervising teacher.

6. BOHNING, Kermit B. and Stitt, Thomas R., Teaching Materials for Environmental Related Courses in Agriculture Occupations Programs. Department of Agriculture Industries, Series No. 101, Southern Illinois University, Carbondale, 1973.

Purpose. The purpose of the study was to assist the agricultural occupational instructor by developing, field testing, and evaluation of a course outline and specific lesson plans in environmental areas.

Method. The writer reviewed existing course outlines from all resources available. An evaluation system composed of teachers of Applied Biological and Agriculture Occupation Teachers. State and University staff and six Vocational Education majors participating in a environmental internship was formulated. The course outline and units were developed, submitted to the committee for use, evaluated by an evaluation instrument and revised for publication.

Findings. The teachers of Applied Biological and Agricultural Occupations supported the unit packaged in Ecosystems and Agriculture and Biotic Communities. The teachers evaluated the components within the respective units and reported high scores on objectives, presentation format, subject matter sequence and bibliographical listings. The teachers which field tested the units reported areas needing further development were class activities and suggested teaching aids.

The results of the limited use of pretest and posttest the day prior and the day following the lesson were significant using a t-test.

7. BOUCHER, Leon W., Professional Performance Activities for Majors in Agricultural Edcuation. Staff Study, 1973, The Ohio State University, Columbus.

Purpose. To develop a list of professional performance activities for majors in agricultural education.

Method. The 516 professional competencies, identified in a study by The Center for Vocational-Technical Education, were utilized by student teachers for three quarters to identify those specific abilities and learning experiences needed by majors in agricultural education. The performance of the student teachers was analyzed in a workshop with 27 cooperating teachers.

Findings. Twenty-five major competencies were identified. A total of 138 essential learning experiences were planned to develop in students the needed abilities. A checklist was developed so students could record, in cooperation with their cooperating teacher, whether the experiences could be performed with no help, with some help, with considerable help, or whether they could not be performed. Seminars are being conducted with cooperating teachers on ways and means of providing and evaluating the identified learning experiences. Activities will continue to be developed and refined during utilization.

8. BOUCHER, Leon W., The Evaluation of Technical Agriculture Courses by Vocational Agriculture Teachers With One to Five Years Teaching Experience. Staff Study, 1973, The Ohio State University, Columbus.

Purpose. To identify the strengths and weaknesses of technical agriculture courses in the preservice program.

Method. One hundred twenty-four teachers of vocational agriculture evaluated the technical agriculture courses completed in the preservice program. Seventy-two courses were assembled in the questionnaire list to be evaluated as to effectiveness of the teaching and usefulness of the skills taught.

Findings. Technical agriculture courses rated most useful by teachers of vocational agriculture were: Weed Control, Livestock Judging, Dairy Herd Management, Livestock Management, Beef Cattle Production, Agricultural Power, Farm Record Keeping and Analysis, and Natural Resources. Technical agriculture courses rated well-taught were: Livestock Judging, Plants and Man, Turf Grass, Farm Safety. Only one of the most useful courses was identified as well-taught whereas two of the most useful courses were identified as very poorly taught. There appeared to be little correlation between the usefulness of a technical agriculture course and the degree to which it was well-taught.

9. BURCH, Alva LeRoy, Financing FFA Activities in Southwest Kansas. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The objectives of this study were to determine the various types of fund-raising activities used by chapters in the Southwest Kansas FFA District. The study was also designed to find out which activities were the most successful and least successful and why.

Method. Information for the report was obtained through the use of questionnaires which were sent to each instructor in the Southwest District. Twelve of the sixteen schools responded for a 75 percent return. Two of the returned questionnaires could not be used, as new instructors were hired who did not have access to the account books of the previous year.

Findings. A variety of fund-raising activities was used by FFA chapters in the Southwest District. A total of 24 activities was reported as sources of chapter income by teachers. The three most popular

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activities were collection of dues, sale of items built in the school shop, and operation of concession stands at ball games. The most successful activities in regard to profit were service oriented in nature. Such activities as slave auctions, fair booths, and meal catering could be considered under this category.

Selling items was the most unsuccessful of fund-raising activities tried by chapters. Competition with downtown merchants, conflicts with other school organizations and inferior products were problems encountered by several chapters. Examples of unsuccessful activities were selling vests, magazines, and unapproved safety equipment. Success of chapter activities depends upon cooperation from all the students. When teachers ranked their students on willingness to work on fund-raising activities the sophomore class was ranked first followed by the freshmen, juniors, and seniors respectively.

The main expense items for chapters in the Southwest Kansas FFA District were District dues, FFA supplies, FFA banquet, judging trips, FFA parties, State FFA Convention, community service activities, National FFA Convention, and educational and pleasure trips.

Very few limitations were placed on chapter fund-raising activities by the administration and school board. Most administrators limited the number of money-making projects and preferred that the chapter limit selling and have more service projects.

10.CARPENTER, C. Bruce, A Status Study of the Horticultural Programs on the Secondary Level in Kentucky with Supporting Data in the Form of Written Guidelines for Curriculum Development. Thesis Ed.D., 1973, University of Kentucky, 181 p. Library, University of Kentucky, Lexington.

Purpose. The primary purpose was to determine the status of the horticultural programs in the public secondary schools of Kentucky with supporting data in the form of written guidelines for curriculum development.

Method. All teachers of vocational agriculture who were teaching horticulture in the 1971-72 school year in Kentucky and all the horticultural specialists in the state composed the universe for the study. The teachers were used to determine the status of the horticultural programs and also to evaluate the guidelines, while the horticultural specialists were used only to evaluate the guidelines.

Two survey schedules were developed to collect the data. The data from Schedule A relating to status and the data from Schedule B relating to guideline evaluation were analyzed in terms of the appropriate descriptive statistics--frequency distributions, percentages, and standard deviations.

Findings. Major findings relating to status which 51 percent or more of the teachers reported as present were as follows:

1. The primary objectives of the horticultural programs were to develop competencies needed for job entry in horticulture and to provide a foundation for additional study in the field.

2. Instructional modules taught in the freshman or sophomore year to prepare students for specialized instruction in horticulture were primarily in the area of soils.

3. Instructional modules taught in the eleventh and twelfth grades dealt with the general aspects of the horticultural field.

4. Students spent 251 to 300 hours primarily at home and at school working on their experience programs.

5. Teachers were poorly prepared to teach horticulture in terms of work experience, college preparatory courses, and workshop attendance.

6. A classroom, greenhouse, and horticultural mechanics area were the primary horticultural facilities.

Major guidelines for the horticultural programs in Kentucky were as follows:

1. The primary objectives of a horticultural program should be to develop competencies needed for job entry and to provide a foundation for additional study.

2. Modules in the areas of soils, plant growth, and fertilizers should be taught to prepare students for specialized instruction in horticulture.

3. Modules dealing with the general area of horticulture should be taught the junior year.

4. Modules dealing with specific skill areas in horticulture such as landscaping, fruit, and vegetable production, and floriculture should be taught the senior year.

5. All students should have an experience program in horticulture composed of experiences primarily at school and/or in businesses.

6. A prospective teacher of horticulture should be well-prepared in terms of technical horticulture, work experience, and teaching skills.

7. Workshops should be used periodically as an in-service tool.

8. A horticultural program should have a classroom, greenhouse, and school nursery.

11. CUMMINS, James E. and BENDER, Ralph E., Agricultural Technician Education in Ohio, 1971-72. Staff Study, 1973, Department of Agricultural Education, The Ohio State University, Columbus.

Purpose. To identify the characteristics of students in the technical agriculture programs in Ohio and to determine the association between selected student characteristics, their success in the program and their later success in life.

Method. Data were gathered by questionnaire from 684 students, graduates, employers, and dropouts representing a total group population of 928. Program information was obtained from technical agriculture teachers. Data were summarized by frequencies, means, and percentages.

Findings. The typical first year enrollee was 19.4 years of age, a high school graduate who had achieved a 2.4 grade point average and was at the 59.2 percentile in his high school class. Twenty-eight percent of the enrollees were from farm homes, and 45 percent listed urban residences; over 66 percent of the fathers of enrollees were employed in nonagricultural business while most of the remainder were engaged in farming. Approximately 47 percent of the first year students lived within 50 miles of their institution and 36 percent lived beyond 100 miles. Forty-four percent of all enrollees commuted. Increased earning ability was given the highest rating by enrollees when asked why they continued their education beyond high school. Outdoor, manipulative, and managerial positions were favored over office and sales work. The dropout rate was nearly 21 percent.

The majority of graduates were employed in agricultural jobs. Advancement, working conditions, training opportunities, and employer were most highly rated influences in selection of a position. Vocational agriculture was rated highest in value among all high school courses. Being an FFA officer or member was rated as the most valuable high school activity in both technical school classes and on the job. Over 74 percent reported satisfaction with their jobs.

Of the 29 dropouts who responded, 20 said technical school was helpful to them. Major causes for discontinuing were dissatisfaction with the program, lack of money, low grades, and military service.

Employers rated graduates high in initiative, integrity, judgment, and responsibility. Graduates were rated "average or better" in most areas. It was concluded that generally adequate preparation had been given graduates.

12. CUMMINS, James E., A Follow-up of Technical Agricultural Graduates and Dropouts in Ohio. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. The purposes of this study were: (1) to describe the occupational performance and educational attainment of persons completing and/or leaving the post-high school agricultural technician programs in Ohio; (2) to determine the degree to which graduates and dropouts are satisfied with their employment; and (3) to determine the degree to which employers are satisfied with graduates and dropouts of agricultural technician programs.

Method. The universe of this study included all 1965, 1966, 1967, and 1968 graduates and dropouts of post-high school agricultural technician programs in Ohio, plus the employers of graduates and dropouts of these programs. The four agricultural programs included were agri-business, agri-equipment, food processing, and horticulture.

Data concerning the number of graduates and dropouts, along with their last known address, were obtained from the directors of the agricultural technologies in this study and from previous research reports concerning agricultural technician education in Ohio.

Findings. Most graduates and dropouts accepted full-time employment after completing and/or leaving their agricultural technician program. Most graduates were "well-prepared" for their present employment which was "highly related" to their technical program.

Graduates averaged fewer jobs, held more job titles of management or mid-management, and had fewer job titles of "laborer" than dropouts. They had a higher average current salary per month and a higher average beginning salary per month than dropouts.

Better salaries was the factor which influenced most graduates and dropouts to change jobs. Very few graduates and dropouts changed jobs because of "lack of necessary skills." Graduates appeared to be more mobile than dropouts.

13. DOERR, William A., An Evaluative Study of the Relative Efficacy of Portuguese and English-Captioned Filmstrips for Teaching Agricultural Concepts in Brazil. Dissertation 1973. Library, Southern Illinois University, Carbondale.

Purpose. This study compared English-captioned filmstrip to otherwise identical filmstrips, except with Portuguese captions, for teaching agricultural concepts in Brazil. The need for the study was indicated by requests for English language audiovisual materials for use in Brazilian schools.

Method. The 627 research subjects, high school and university students of agriculture, were randomly assigned among four treatment groups. Each subject completed the following series of events: a test of reading knowledge of English; a pretest of the subject matter of the filmstrip to be used in the treatment; the appropriate treatment; a posttest over the subject matter of the filmstrip.

The four treatments were: A--an English-captioned filmstrip without sound; B--an English-captioned filmstrip with accompanying recorded Portuguese sound, the sound being a translation of the captions on the filmstrip; C--a Portuguese-captioned filmstrip without sound (film otherwise identical to A, except with Portuguese captions); D--a Portuguese-captioned filmstrip with sound (same filmstrip as C; same sound as B).

An analysis of covariance, using English test and pretest scores as covariates for calculating an adjusted posttest score, and appropriate F-ratios were calculated.

Findings. Hypothesis 1, Portuguese-captioned filmstrips are superior to otherwise identical filmstrips, except with English captions, for teaching agricultural concepts in Brazil was strongly supported by the data. The results were inconclusive concerning hypothesis 2, a Portuguese-captioned filmstrip is superior to the combination of an English-captioned

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filmstrip accompanied by an oral translation of the English captions for teaching agricultural concepts to Brazilian students. There was no significant difference between the two treatments in two of the filmstrip groups, but on the third filmstrip there was a significant difference. Differences in the types of information included in the captions is offered as a possible explanation for the treatments differing significantly in one case and not in the others.

The study showed that certain kinds of English-captioned filmstrips can be adequately adopted for Brazilian use by recording Portuguese sound to accompanying the filmstrip.

14. FARRELL, Maurice Joseph, An Evaluation of Fourteen Areas of the Vocational Agriculture Program at Hill City High School, 1959-1972. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the occupational status of the vocational agriculture graduates and to provide data which could be used to evaluate the 14 areas of the vocational agriculture program at Hill City High School.

Method. Data were obtained by sending a questionnaire to the graduates having had three or more years of vocational agriculture in Hill City High School from 1959-1972. A questionnaire was developed and mailed to 87 graduates for whom addresses could be obtained. Questionnaires were returned by 66 of the 93 graduates.

The questionnaire was developed to evaluate 14 areas of the vocational agriculture program. The areas were as follows: Leadership training, record book, student notebook, judging contest work, FFA awards, two hour Vo-Ag II class, farming program or work experience, mechanical skills, shop projects, chapter farm, field trips, technical agriculture information, social experiences in FFA, and occupational information.

The graduates responded to each of the 14 areas on a Likert type scale which gave a choice of very valuable, 4 points; valuable, 2 points; and no value, 0 points. The author considered weighted averages from 3.3-4.0 as being very valuable, those from 2.7-3.2 as being valuable and those from 2.2-2.7 as being of some value.

Findings. The findings indicated that 18.2 percent of the graduates were farming, 27.3 percent were in ag related occupations and 54.5 percent were in non-ag related occupations. The non-ag related group included six respondents who were in the armed services.

It was found that the areas of mechanical skills, leadership training, shop projects, record book, and the farming program or work experience were rated the most valuable by the graduates on the basis of weighted averages and frequency of responses as being one of the three most important areas.

It was found that all areas of the vocational agriculture program, except the student notebook, were "very valuable" areas for the graduates entering the farming occupation. The ag related graduates rated eight areas in the "very valuable" category. The non-ag related respondents considered seven of the 14 areas to be "very valuable."

The study indicated that the student notebook, judging contest work, FFA awards, technical agriculture information and field trips were of "some value" and would need to be improved or discontinued for the non-ag related graduates. The graduates in ag related occupations rated the two hour Vo-Ag II class, FFA awards, and judging contest work as areas needing improvement.

On the basis of the findings of this study, it was concluded that the vocational agriculture program at Hill City High School had been effective in meeting the needs of the graduates in the areas of mechanical skills, leadership training, shop projects, record book and farming program or work experience.

15. FOREMAN, Ronald L., Relationship of an Early Placement Program to the Transition from School to Full-Time Employment. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. To evaluate the relationship of an early placement program to the initial transition from school to full-time employment and to determine if actual work experience as part of the high school curriculum effected attitudes toward work and/or self-esteem.

Method. The sample consisted of 200 students enrolled in 16 classroom units from 13 school districts in Ohio. Classroom units were selected at random from the accessible population. One hundred students received six to nine week early placement as part of the vocational curriculum during the second semester of the senior year. The remainder of the students involved in the study received the conventional laboratory program throughout the senior year. A nonequivalent control group design was used.

An effort was made in the study to test the equivalency between groups through use of intelligence quotient; general aptitude test battery profiles; grade point averages for the senior year; and high school grades for English, Mathematics, Science, and Vocational Education.

Data were gathered by student and employer responses to questionnaires, employment service information, self-esteem inventory, modified from Stanley Coopersmith's esteem inventory and attitude towards work scale.

Findings. Equivalency did exist between groups.

There were positive relationships among attendance, punctuality, safety, and adherence to employer regulations and the ability to adjust in initial employment. A positive relationship also existed among desire to advance, employer opinion of advancement potential and promotions offered and accepted, and the ability to adjust in initial employment. Students of the early placement program were offered and accepted more opportunities for advancement. Students of the comparison group tended to have a greater desire for advancement.

There was a significant difference between groups for days required to attain full employment upon graduation. Students of the comparison group required 18 more days to acquire employment.

No significant differences existed between the early placement group and students in the conventional vocational programs relative to self-esteem or work attitudes.

16. GROSS, William Ralph, A Follow-Up Study of Riley County High School Vocational Agriculture Graduates, 1960-1971. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this report was to determine the occupational status of the vocational agriculture graduates of Riley County High School, and to provide data which would be of assistance in determining the value of vocational agriculture program to the graduates on the job and in the home. An additional purpose was to determine what other areas of training the graduates perceived as needed.

Method. Information was obtained by sending a questionnaire to each graduate with three or more years of vocational agriculture. Questionnaires were returned by 48 of the 85 graduates.

Findings. The major findings indicated that 35 of the 48 graduates (75.2 percent) were engaged in farming, part-time farming, or agriculture-related occupations, and 13 of 24.2 percent were in nonagricultural occupations.

It was found that graduates in farming, part-time farming, and agriculture-related occupations placed a higher value on the vocational agriculture areas of instruction for use on the job than graduates in nonagriculture jobs, with the exception of social security. When the same areas of instruction were evaluated according to use in the home, graduates in nonagriculture jobs valued instruction in the use of power tools of greater importance than those engaged in farming.

It was found that 25 of the 48 (52 percent) graduates surveyed continued their education beyond high school. Nineteen of these 25 (96 percent) either completed or are presently pursuing their educational objectives.

It was found that of the former students engaged in farming or agriculture-related areas, 64 percent were married while 76.9 percent of those in nonagriculture related areas were married. It was found that 50 percent of those engaged in full-time farming had an annual salary of $8,000 or more, while only 30 percent of those in nonagriculture areas were over $8,000.

In response to what part of vocational agriculture courses were most helpful, it was found that agricultural mechanics was rated most helpful with FFA and record books following closely. FFA was rated as the most important extracurricular activity with band as least important.

Based upon the outcome of the study, the writer made the following recommendations: (1) Continued emphasis should be placed upon the vocational agriculture subjects that were taught and which meet the needs of those going into farming and agriculture-related occupations; (2) those subject areas of instruction which were found to be of greater value on the job and in the home should be emphasized more; (3) due to a large

percentage of students not continuing education beyond high school, a greater emphasis should be placed upon vocational courses in Riley County High School.

17. HEMP, Paul E. and WALKER, Robert W., Evaluation, Refinement, and Revision of an Occupational Orientation Unit in Applied Biological and Agricultural Occupations. Staff Study, 1973, Division of Agricultural Education, University of Illinois, Urbana.

Purpose. To prepare, field test, evaluate, and refine a 12-week occupational orientation unit in applied biological and agricultural occupations.

Method. A teaching guide and 100 occupational briefs were field tested in six pilot schools in Illinois. The teaching guide included the following five clusters of agricultural occupations: agricultural production, ornamental horticulture, agricultural mechanization, agricultural supplies and products, and agricultural resources and forestry. The orientation unit was taught to 128 students at the eighth, ninth, and tenth grade level. The cooperating teachers were teachers of agricultural occupations who received orientation and assistance from the project staff prior to and during the time the unit was offered. At the end of the testing period students were brought together as a group at the close of the testing period to evaluate the unit and make suggestions regarding the improvement.

Findings. An occupational orientation unit in applied biological and agricultural occupations should be offered to eighth or ninth grade students prior to their enrollment in vocational preparation programs. The unit should be activity centered. Suggested learning experiences include field trips, tours, work samples, and career days. The orientation unit should help students to understand themselves and to understand career opportunities, work requirements, and educational requirements for selected occupations in the field of agriculture. A tentative career plan and an educational plan were to be developed by students during the last week of the orientation unit.

18. HOFSTRAND, Richard Kent, The Occupational Expectations of High School Seniors by Sex, Social Class, Curriculums, and Other Selected Variables. Ph.D., Thesis, 1972. Library, University of Illinois, Urbana.

Purpose. Occupational expectations are believed to be important determiners of such behaviors as occupational choice, preparation, and success. To be of greater service in helping youth to prepare for, enter, and progress within an occupational career desired, educators, i.e., instructional, administrative, and ancillary personnel, should become better informed of the occupational expectations of youth.

The problems were to identify the occupational expectations of youth, to determine the intensity of expectancy and degree of value held for specific expectations, and to relate expectations to selected independent variables.

Method. The Procedure began by identifying components of occupational expectations through a review of literature. The components include (1) accomplishment, (2) creativity, (3) competence, (4) safety, (5) life style, (6) advancement, (7) activity, (8) affective aspects, (9) identity, (10) security, (11) glamour, (12) altruism, (13) status, (14) comradeship, (15) power, (16) authority, (17) supervision, (18) responsibility, (19) interpersonal proximity, (20) remuneration, (21) time frame, (22) physical environment, (23) physical activity, (24) mental activity, (25) personal physical standards, and (26) autonomy. The components were arranged into the four modes of occupational expectations of a person's relationships with (a) self via an occupation, shown in components one through eight, (b) other persons outside the job environment, shown in components nine through 13, (c) other persons within the job environment, shown in components 14 through 19, and (d) the inanimate job, shown in components 20 through 26. Thirty-two specific occupational expectation items, eight within each mode, were prepared based on the components. The items were randomly arranged in an Occupational Expectations Inventory (OEI). The probability, desirability, and importance of each item to a person were recorded on a five point scale. The sum of the indicated desirability and importance was multiplied times the indicated probability resulting in an expectational product. For each mode, the appropriate eight expectational products were summed to produce a subscore on the OEI.

The OEI, a pupil data questionnaire, and the Sims Social Class Indicator Occupational Rating Scale were administered to 692 twelfth-grade pupils enrolled in a random sample, which was stratified as to enrollment size, of ten public secondary schools in Illinois. The complete data from 621 subjects were analyzed using two-way and three-way analysis of variance with repeated measures and the Neuman-Keuls cell mean differences analysis procedure.

Findings. Significant differences, at the 0.05 level, were found among the four modes of occupational expectations as measured by the four subtests of the OEI. A rank ordering of these modes from greatest to least degree of expectancy and value recorded is shown under the procedure above.

Significant differences were found between the four subscores of the OEI and categories of the selected independent variables of (a) four curriculums in which enrolled, (b) seven fields of subjects' occupational choices, (c) six categories of time, following secondary school graduation, when full-time employment in the occupation desired would begin, and (d) seven categories of prior employment experience.

No significant differences were found between scores on the OEI and (a) the sex of the subject, except that females indicated more intensive expectancies and value for expectations dealing with modes b and c, while males indicated greater expectancy and value in modes a and d, (b) six categories of social class, except that subjects in the lower working class possessed significantly lower expectancies and value for their occupational expectations, and (c) the size of enrollment of the secondary school.

Implications of the study for researchers, psychometricians, curriculum developers, occupational counselors, teachers, personnel recruiters, industry, and others were discussed.

19. HOWELL, David L., The Effect of a Student Manual on the Attitudes of High School Students Toward Environmental Protection. Dissertation, Ph.D., 1973. Library, The Ohio State University, Columbus.

Purpose. To determine if the use of a student manual, Introduction to Environmental Protection, aided high school students enrolled in vocational agriculture and science courses in formulating positive attitudes toward the protection of the environment to a greater degree than students taught environmental protection without the use of the student manual, and to investigate the relationships between selected assigned independent variables and the class mean posttest attitude inventory scores.

Method. The design of the experiment was the Solomon Four-Group Design.

The following assigned independent variables were tested: (1) the number of professional environmental education courses completed by the instructor, (2) number of weeks devoted to teaching the environmental protection unit, (3) the number of films shown in teaching the environmental protection unit, and (4) the number of experiments instructors used in teaching the unit. Also investigated was the relationship between students' posttest attitude inventory scores and their occupational choice.

An attitude inventory developed by the research was used to measure students' attitudes toward the protection of the environment.

Findings. There was no statistically significant difference in posttest attitude inventory scores between students using the student manual, Introduction to Environmental Protection, and students not using the student manual. The science classes had a higher posttest attitude inventory score than did the vocational agriculture classes. A positive but moderate relationship was found to exist between the students' posttest attitude inventory scores and the number of professional environmental education courses taken by the instructor. No significant relationships existed between posttest attitude inventory scores and number of weeks devoted to the instructional unit, number of films shown, and number of experiments.

20. HUNG, Nguyen Thanh, Factors Which Affected the Choice of the Agricultural Education Major at Kansas State University, 1973. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to identify the factors which affected the choice of the Agricultural Education Curriculum. This report included a comparison of the factors in the selection of a college major

as identified by Mr. Terry D. Fanning in 1969. The writer of this report tried to identify any changes which may have taken place from 1969 to 1973 in the selection of agricultural education as a college major.

Method. The questionnaire used in this study contained 14 items and was designed to measure the student's background, factors which influenced the selection of the agricultural education major, suggestions for the choice of college majors, and the interest of students in international agriculture. All agricultural education majors hereafter referred to as ag ed majors were selected as the sample for this study. Sixty-six of 81 or 81 percent of ag ed majors who were enrolled at Kansas State University in the 1973 Fall semester indicated which factors affected them in the selection of their college major.

Findings. The results of this study indicated the changes which had taken place during the last five years from 1969 to 1973 in the selection of the agricultural education major. These changes were as follows: (1) 42 percent of the majors changed to the agricultural education curriculum since they enrolled in college compared to 44.3 percent in 1969; (2) 70 percent of ag ed majors selected their college major when they were in the senior year of high school or later compared to 67 percent in 1969; (3) the years of the schooling of the mothers of ag ed majors had decreased from 12.8 years in 1969 to 12.5 years in 1973 while the father's schooling had increased from 11.4 years to 11.7 years; (4) 70 percent of ag ed majors lived on farms in 1973 compared to 93.8 percent in 1969; (5) the percentage of ag ed majors who had used opportunities to go back to farming from 63.3 percent in 1969 to 60.7 percent in 1973; (6) the percentage of relatives of ag ed majors who were involved in agribusiness had increased from 23.0 percent in 1969 to 27.3 percent in 1973, and (7) the most influencial persons in the selection of the ag ed major were: vocational agriculture instructor, father and mother in 1969 compared to vocational agriculture teacher, father, and others in 1973.

The most important factors in the selection of agricultural education as a college major in rank order were: (1) have had background and experience in this area; (2) greater change for self-satisfaction from work; (3) this area best prepares me for future employment; and (4) like to work with people.

The last part of the report was devoted to determine the interest of the ag ed majors in various areas of vocational agriculture, important employment considerations, and their interest in international agriculture. Findings of the study indicated the following: (1) ag ed majors preferred animal science, crops and soils, horticulture, and ag mechanics in that order; (2) vocational agriculture teaching, farm and ranch operation, agricultural extension were ranked as the most important employment considerations in the selection of the ag ed majors; and (3) 45 percent of ag ed majors were interested in international agriculture. They preferred to work in this area because of involvement with people, service to undeveloped countries, and working conditions.

21. HYLE, Dwight E., A Study to Determine the Number of Annual Entry Opportunities in Production Agriculture for Kansas. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the number of annual entry opportunities in production agriculture for Kansas. The objective was to identify the number of farming opportunities by county and state with $20,000 or more annual gross income.

Method. To determine the number of entry opportunities in production agriculture a method was used which was developed by the Agricultural Economics Department of Oklahoma State University. The method used involved the determination of entry opportunities based upon the number of farm opportunities with $20,000 or more gross income. Information needed to determine the entry opportunities was taken from the 1969 Census of Agriculture, Volume I, part 21, Kansas, Sections 1 and 2. The number of farms with gross incomes of $20,000 or more, and the number of units of $20,000 gross income which would be possible from the consolidation of the remaining farm units with gross incomes of less than $20,000 was entered into the formula along with the number of hired farm workers to give the total opportunities in production agriculture.

After the gross number of farming opportunities was obtained the following approach was used to calculate the number of farmers which would be needed annually. The number retiring annually was determined by taking the average age of the farmers and calculating the number above the average age which would retire by the age 65. Insurance tables were used to determine the number who die or become disabled. Retirement, death, and disability numbers were totaled to get the annual opportunities for production agriculture for each county and the state.

Findings. The results were recorded in tabular form. There were 24 counties with 40 or more annual opportunities to enter production agriculture. There were 16 counties which had fewer than 20 annual opportunities to enter production agriculture. For Kansas the average county had 199.98 farms with gross annual incomes of $20,000 or more, and 519.71 units would be available after consolidation of farms with less than $20,000 gross income. There was an average of 82.37 hired farm workers per county giving a total of 802.06 opportunities in production agriculture per county. Upon the determination of the annual entry opportunities it was found that 28.68 farmers retired and 3.91 died or became disabled each year providing a total of 32.95 annual entry opportunities per county.

There were 20,998 farms in Kansas which had gross incomes of $20,000 or more with the possibility of 54,570.16 units of $20,000 gross income after consolidation. Kansas had 8,649 hired farm workers for 150 days or more. This gave 84,217.16 employment opportunities in production agriculture for Kansas. There were 3,011.16 who retired annually and 410.79 who died or became disabled. Thus there would be 3,428.56 annual opportunities to enter production agriculture in Kansas due to retirement, death, and disability.

The approach used to determine the number of annual production agriculture opportunities appeared to be workable. The author recommended that the findings of this study be made available for predicting the annual entry

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opportunities in production agriculture for Kansas. The author also recommended that this approach be used again in five years when the 1974 Census of Agriculture becomes available. It was recommended that vocational agriculture programs be provided for those entering production agriculture.

22. JOWELL, William E., Performance Objectives: Their Effect Upon Achievement in Basic Electricity. Dissertation, Ph.D., 1973. University of Missouri, Columbia.

Purpose. The primary purpose of this study was to determine the effect of prior knowledge of specific performance objectives upon cognitive and psychomotor achievement in basic electricity. Further, the study was designed to determine any differential effect of the objectives upon the achievement of higher and lower ability students.

Method. In this two-group controlled experiment, each treatment group consisted of four basic electricity classes taught in Missouri vocational agriculture departments during the winter semester of 1973. Each intact class was randomly assigned to one of the treatment groups. The students in the control group received verbal general objectives at the beginning of each lesson. The students in the experimental group received verbal general objectives at the beginning of each lesson plus a written copy of the specific performance objectives before the start of the instruction in basic electricity. The instructional procedure followed during each treatment was to pretest the randomly selected groups, apply the treatment, and posttest to determine the effect of the treatment. Five lesson outlines were developed to guide the instruction for both groups. The duration of the instruction was 15 fifty-five-minute instructional periods. The analysis of variance was used to test the hypotheses related to psychomotor skill development and the analysis of covariance was used to test the hypotheses related to cognitive achievement.

Findings. Prior knowledge of specific performance objectives failed to significantly influence cognitive achievement or psychomotor skill development in basic electricity. The specific performance objectives treatment apparently aided in reducing the variation in cognitive achievement between the ability levels. Higher ability students not receiving specific performance objectives achieved a significantly higher adjusted cognitive mean score than the lower ability students not receiving the specific performance objectives. There was no significant difference between the adjusted cognitive mean scores of higher and lower ability students receiving specific performance objectives.

23. KIMMONS, Marion L., Factors Affecting the Ability of Missouri Vocational Agriculture Teachers to Train Judging Teams. Dissertation, Ph.D., 1973. Library, University of Missouri, Columbia.

Purpose. The primary purpose of this study was to determine those factors which most influenced the success of a vocational agriculture teacher in training judging teams.

Method. The entire population of Missouri vocational agriculture teachers was used. For repetition, two consecutive school years were examined, 1971-72, 1972-73. The teachers were divided into two groups for each of the two years. Division was based upon whether the teacher's judging team(s) made a group 1, 2, or 3, at the state contest or not. Variables under consideration were the number of hours spent in preparing each team, number of years teaching experience of each teacher, number of years each teacher received vocational agriculture as a high school student, college credit hours each teacher received in that field, number of teams entered by each teacher, number of hours each teacher spent on judging while student teaching in the cooperating school, the number of in-service credit courses each teacher attended since 1967, and the number of hours spent assisting with district and state judging contests during each teacher's senior year at the University of Missouri,Columbia. Stepwise discriminant function was employed to make comparison between groups. Statistical measurement using 2 x 2 contingency table was utilized to check for probability of teams being placed in the right group. Statistical values at the .05 level were considered sufficient to reject the null hypothesis.

Findings. While the relationship between each variable and its effect upon each of the four selected judging contest areas varied from area to area, some significant correlations emerged. The number of hours spent training each team, the number of years of vocational agriculture teaching experience, and the teacher's participation in vocational agriculture as a high school student affected his ability to successfully train dairy production and soils judging teams. Also of significance in training dairy production and soils teams, were the teacher's experience in training judging teams as a student teacher, assisting with district and state judging contests while a senior at the University, and the in-service credit courses he attended. Certain other unidentified factors influenced the success of the teacher to train animal husbandry and farm mechanics judging teams. There was no significant correlation between these teams and any of the variables concerned with this study. The misplacement of groups was not significant at the .05 level.

24. KLEENE, Marvin D., A Study of Attitudes of North Dakota Implement Dealership Managers Toward a Continuing Management Education Program. Colloquium Paper, M.S., 1973, North Dakota State University. 54 p., Department of Agricultural Education, North Dakota State University, Fargo.

Purpose. This study was conducted to determine attitudes of the farm implement dealership managers in North Dakota toward their needs for selected areas of management education. Specific objectives included:

1. To determine the attitudes of North Dakota farm implement dealership managers:

   a. toward their need for selected areas of management education;

   b. toward various agencies or groups as possible sources of management education.

2. To obtain profile information of the North Dakota farm implement dealership managers as to their age, level of formal education, management tenure, size of business, and type of business managed.

3. To compare the attitudes of North Dakota farm implement dealership managers toward their need for management education with number of full-time employees, age, levels of education, and management tenure.

Method. This study was limited to the 39 managers of North Dakota farm implement dealerships actively managing a business as of January 22, 1973. Direct mail questionnaires were used to secure the data. A chi-square test for independence was used for those portions of the data on which comparisons were determined.

Findings and Interpretations. Of the 32 management skills asked about in the questionnaire, 31 skills were ranked above the median of the possible ranking range. This indicated more of the implement managers regarded these management skills as being relatively important in a management education program.

In analyzing managerial groupings by size of business and years of management experience, there were more differences regarding opinions concerning needed management skill areas to be included in a management education program than in analyzing managerial groupings by age or level of education.

The implement managers indicated they would look most often to junior colleges, vocational-technical, state colleges, and state universities as possible sources of management education programs.

Nearly 29 percent of the implement managers in this study were 55 years of age or older. It is very probable that one-fourth to one-third of these positions will turn over in the next decade. More than 85 percent of the managers either partially or completely owned the business they managed.

25. LINK, Dwight Eric, Occupational Advisory Councils' Interactions: Their Relationship to Occupational Program Age and to Perceptions of Effectivenss as Reported by Participants. Dissertation, Ed.D., 1973. Library, University of Illinois, Urbana.

Purpose. The primary purposes of the study were: (1) to test the widespread assumption that participatory occupational advisory council management activities are related to reported member and exofficio participant perceptions of advisory council effectiveness; and (2) to test for differences between a new council and an established council. The study provides vocational educators with the first reported occupational advisory council interaction data. These data provide an in-depth view of the relationship between interactions and perceptions of effectiveness observed among junior college occupational advisory council members and exofficio participants. These data also examine the effect

of being a new occupational advisory council member as opposed to being a "veteran" member. Finally, these data identified some of the interaction differences between an occupational advisory council in its first year of operation and one which has been in operation for more than one year.

The pragmatic purpose of the study was to provide vocational educators and lay occupational advisory council members with research findings useful in planning effective council meetings.

Procedure. From the Illinois junior college occupational advisory council population, two councils were selected based upon six criteria. Most critical for purposes of the study was that one council was to be in its first year of operation, while the second council was to be more than one academic year old.

Seven hypotheses and 36 sub-hypotheses were developed to test the following differences or relationships:

1. The differences between the interactions of a first year occupational advisory council and the interactions of an established council.

2. The differences between the interactions of occupational advisory council members and exofficio council participants.

3. The differences between the interactions of nonveteran members and exofficio council participants.

4. The relationship between the quantity of observed members' and exofficio participants' interactions and their perceptions of council effectiveness.

Two research instruments were used to gather data: Bales' Interaction Process Analysis instrument (Bales, 1970) and the Occupational Advisory Council Effectiveness instrument (based upon Vogler, 1971). Bales 12 category interaction system was applied "live" during two official meetings of each council. A second 12-item instrument was used as a posttest to measure occupational advisory council members' and exofficio participants' perceptions of council effectiveness.

Three statistical test methods were used: analysis of variance, Pearson's product moment correlations, and discriminant analysis.

Findings. The established occupational advisory council's interactions were significantly different in all the work oriented categories of the Bales' interaction data. The established council members were more likely to agree or disagree, give their suggestions, opinions, and any information, and to ask questions to gain suggestions, opinions, or information.

The two councils were not significantly different in indications of emotion as measured by Bales' categories, "Seems friendly," "Shows tension," and "Seems unfriendly."

The exofficio college participants were dominant in the occupational advisory councils observed. The college participants appeared even more dominant when the veteran members' interaction data were removed.

Three assumptions concerning the relationships between council interactions and reported effectiveness were tested. First it was assumed that when an individual's interaction scores increased, a corresponding increase in effectiveness scores would occur. This assumption was not supported. A second assumption was that if the exofficio participants' interaction scores increased, then the effectiveness scores of lay individuals would decrease. The study discovered no such relationship in the two councils. A final assumption, upon which the interaction-effectiveness research was built, stated that when Bales' scores related to giving suggestions, opinions, and information increased, there would be a corresponding increase or decrease in effectiveness scores. No such relationships with any statistical significance were determined.

26. MAYER, Norbert F., A Study of Job Experiences of Wyndmere High School Students Who Were Enrolled in Vocational Agriculture During Their Senior Year and at Least One Other Year During the Period 1955-1969. Colloquium Paper, M.S., 1973, North Dakota State University. 35p., Department of Agricultural Education, North Dakota State University, Fargo.

Purpose. To determine the first and 1971 (present) job status of high school students who were enrolled in vocational agriculture during their senior year and at least one other year during the period 1955-1969 and those seniors enrolled in 1954. (Department established 1953-54.) Specific objectives of the study were to determine:

a. the first job status after graduation,

b. the 1971 (present) job status of the respondents,

c. the 1971 (present) geographic location of the respondents.

Method. A questionnaire was used to obtain the information needed from 133 former students of the Wyndmere High School who met the criteria established for the study. The questionnaire was tested on a trial basis before use. Replies were received from 94 of the 113 students who were invited to complete the questionnaire.

Findings and Interpretations.

a. First job status: data relating to the first job status of the respondents revealed 35.1 percent took first employment in agriculture, 6.4 percent in nonagricultural jobs, 11.7 percent entered the military service and 46.8 percent continued their formal schooling.

b. Present geographic location: nearly half (47.9 percent) of the respondents were residing in Richland (the home) county.

c. Present job status: at the time of the study 56.4 percent of the respondents were employed in agriculture, 18.1 percent were employed in nonagricultural jobs, 11.7 percent were in the military service and 13.8 percent were in school. Of the former students engaged in agriculture 50.9 percent were employed in farming, 26.4 percent were employed in agricultural mechanics and 15.1 percent were employed in sales and services occupations, 3.8 percent were in jobs making agricultural products and 3.8 percent were professional agriculturists.

27. McCRACKEN, J. David, Information Needs of State Directors of Vocational Education. Staff Study, 1973, The Center for Vocational and Technical Education, The Ohio State University, Columbus.

Purpose. To identify the critical problems of state directors of vocational education and the information sources they utilized.

Method. A sample of 15 state directors was randomly selected by region. Each respondent was asked to respond to a mail questionnaire and 15 telephone interviews over a 30-week period of time between January and August 1971. A total of 216 telephone interviews were conducted through which 341 major professional problems were identified. Data were described as frequencies and percentages of group response levels.

Findings. Major problems of state directors related to administrative leadership and finance. Program planning, staff, administrative organization, and decision making were major subproblems within the area of administrative leadership. The greatest time and effort was expended in resolving problems related to finance. Information was needed to resolve 87.9 percent of the reported problems.

Participants were more likely to seek information through personal contacts than by searching literature. Resolution of problems was delegated to subordinates. Information agencies were seldom used.

Research information was seldom desired but descriptive research results were preferred when compared with experimental studies. Reports and pamphlets were used almost to the exclusion of bibliographies, books, guides, indexes, and periodicals. Accessibility of materials was a major factor related to utilization, as was type and/or form of the information.

Personal information sources were selected because of their job responsibility, the quality of their work, their understanding of the problem, or the type or form of data they could provide.

28. McCRACKEN, J. David and GILLESPIE, Wilma B., Information Needs of Local Administrators of Vocational Education. Staff Study, 1973, The Center for Vocational and Technical Education, The Ohio State University, Columbus.

Purpose. To identify the critical problems of local administrators of vocational education and the information sources they utilized.

Method. Five states and alternates were selected in a stratified random sample. States were stratified by funds expended for vocational education and by region. Six local administrators representing secondary and post-secondary education were randomly selected for each state. Each of the 30 participants responded to a mail questionnaire and 15 telephone interviews between November 1971 and June 1972. A total of 450 telephone interviews were conducted during which 611 major professional problems were identified. Data were described as frequencies and percentages of group response levels.

Findings. Participants were primarily concerned with administering curriculum, instruction, and programs. They generally perceived little need for information for use in problem resolution.

Most decision making was done without searching for information. When information was needed, problem resolution was attempted through personal contacts (consultations, visits, and interviews). Decisions were usually made cooperatively, utilizing the expertise of others.

Respondents desired experienced people as their major information source. Literature used most included guides, reports, and periodicals. Substantive personnel on the staff were the most often used personal information sources.

The major criterion for utilization of personal information sources was the quality of information they could provide. Printed materials were selected because of familiarity and content quality.

29. McCRACKEN, J. David and GILLESPIE, Wilma B., Information Utilization by Vocational Educators. Staff Study, 1973, The Center for Vocational and Technical Education, The Ohio State University, Columbus.

Purpose. To prepare user profiles for local administrators, teacher educators, state directors, and state supervisors of vocational and technical education; and develop guidelines for information dissemination based on the user profiles.

Method. The sample for this study was a composite of the respondents from previous studies. The procedure involved evaluating the data base, tabling needed information, developing user profiles, testing the profiles with a jury of experts, developing guidelines for information dissemination, and testing the guidelines with consultants. Dimensions or variables included in the user profiles were work setting, personal characteristics, major professional problems, decision-making mode, information services used, information sources or products used, characteristics or criteria of products used, and personal information sources used.

Findings. User profiles and guidelines were presented separately for local administrators, teacher educators, state directors, and state supervisors.

30. McCUTCHEON, James Randall, An Assessment of Factors Related to the Diffusion Strategy for Simulation Training Materials. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. To describe the strategy employed to diffuse three simulation training packages, to describe the characteristics of the workshop participants who were prepared to be trainers and diffusers of simulation materials, and to assess the relationships between selected demographic and attitudinal factors and the stage or phase of plans which the participants developed for utilizing and diffusing the simulation materials.

Method. The simulation training materials were developed by The Center for Vocational and Technical Education.

The diffusion strategy employed to diffuse the materials was designed to achieve widespread diffusion by using a "trainer of trainers" strategy. Persons in leadership positions in vocational and technical education nationwide were selected to attend one of two national simulation trainers' workshops. Tactics utilized were: (1) initial awareness; (2) personal letter follow-up; (3) mailing of workshop announcements and applications; (4) selection and notification of participants; (5) planning and conducting workshops; (6) telephone follow-up of trainers; and (7) distribution of materials.

Five attitudinal variables were assessed: (1) change-orientation, (Russell Change-Orientation Scale); (2) dogmatism, (Rokeach Short-Form Dogmatism Scale); (3) internal-external control (Rotter Internal-External Control Scale); (4) cosmopoliteness (Dye Local-Cosmopolitan Scale); and (5) conservatism (McClosky Conservatism Scale).

Findings. The demographic factors, age, tenure, formal education and experience as a college graduate instructor were found to be positively and significantly related to the stage of plans which the participants in the simulation trainers' workshops developed for using the materials. These factors all tend to be associated with the trainers' influence over decisions concerning the use of the materials.

Hypotheses related to attitudinal factors and the participants' plans for diffusing the materials were not supported.

31. MOORE, Philip B., Staffing Patterns in the Cooperative Extension Service. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. The determination of the types and number of staffing patterns in Cooperative Extension throughout the 50 states, the priority of functions of area and county extension agents in the four program areas of agriculture, home economics, community resource development, and 4-H youth work; and the description of certain selected characteristics of those states having various patterns of staffing.

Method. The population surveyed for this study included all the Directors of State Cooperative Extension Services and all program leaders for the areas of agriculture, home economics, community resource development and 4-H youth work in each of the 50 Cooperative Extension Services in the United States.

Data were collected by means of questionnaires from extension directors and program leaders.

Findings. Nine staffing patterns were found to exist in 1972 within the Cooperative Extension Service; four were most widely used. The county only staffing pattern was the most predominant, followed by area and county, separate offices; multicounty, county office; area only, area office. The most frequently used pattern in 4-H and home economics was county only, while in agriculture and community resource development area and county, separate offices was most used. States with a larger budget, more personnel, and with a larger number of counties tended to utilize some type of area staffing over county staffing.

The most frequently used titles were County Extension Agent, Extension Agent, and County Agent for the county-based agents; and Area Agent, and Area Specialist for the area-based agents. There is a higher priority to provide in-service training over preservice training. The minimum educational degree for county agents is the bachelor's degree, and a bachelor's and master's degree depending upon program area for area agents. Weaknesses of area staffing reported by program leaders were large geographic areas with the staff spread too thin, and funding problems; strengths included more localized specialized assistance and specialization in a subject as the most frequently reported advantages.

32. NEAVILL, Arthur T., Criterion-Referenced Assessment of Ninth- and Tenth-Grade Instruction in Vocational Agriculture. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. The study was designed to assess the competencies of tenth-grade vocational agriculture students in Ohio who had completed two years of instruction in vocational agriculture.

Method. Data were collected from 381 tenth-grade students completing two years of instruction in vocational agriculture. A random sample of 31 schools was selected from the 125 local schools in the 19 joint vocational school districts providing agricultural instruction during the 1972-73 school year. Students completed an information questionnaire and a criterion-referenced Principles of Agriculture test. Teachers in the 31 schools completed a form on which they estimated the students' degree of mastery for 65 items on the instrument.

Findings. It was found the 18 percent of the students correctly answered 76 percent or more of the 102 items on the criterion-referenced instrument. Approximately one-third of the students correctly answered 76 percent or more of the agricultural occupations, animal science, and agricultural mechanics items. Ten percent of the students correctly answered 76 percent or more of the leadership items, and 15 percent of the

students correctly answered 76 percent or more of the crop and soil science items.

Teachers were generally unable to estimate accurately their students' degree of mastery on the criterion-referenced items. Eighty-seven percent of the teachers who incorrectly estimated students' level of mastery overestimated the students' degree of mastery.

Students who indicated an occupational choice tended to achieve a higher degree of mastery than students not indicating an occupational choice or students who plan to enter the military service. Students naming agricultural job preferences tended to achieve higher levels of mastery for all subject-matter areas than students selecting nonagricultural job preferences. Generally, students who reside on farms, students who indicated agricultural job preferences, students whose fathers are employed in agriculturally related jobs or in production agriculture jobs, students who reported higher numbers of supervised experiences, and students who plan to attend post-high school institutions achieved a higher degree of mastery on all items.

Students who had livestock projects, crop and soil science projects, or agricultural mechanics projects performed at a higher degree of mastery in these subject-matter areas than students who did not have projects. Generally, as students' participation on FFA committees and in FFA contests and awards activities increased, their degree of mastery on leadership items increased.

33. NEWCOMB, Lawrence H., The Effect of Contract Grading on Student Performance. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. To determine the effect of contract grading on student performance as measured by a cognitive posttest and to determine the effect of contract grading on final grades students received in the course, students' attitudes toward the course, amount of time students devoted to the course outside of class, amount of assigned reading completed, and the students' perceptions of the extent to which the course met their individual needs.

Method. Intact groups of students enrolled in the course Introduction to Agricultural Education at The Ohio State University were randomly assigned to the two levels of the independent variables, contract grading and conventional grading. A nonequivalent control group design was used for the experiment during autumn quarter, 1972 and again for the replication of the study during the winter quarter, 1973. The two groups received identical treatment except for the differences inherent in the two grading procedures.

A cognitive posttest developed by the researcher was used to determine the performance of the two groups. Data used to ascertain the differences in final grades were the official grades submitted to the registrar. Students' attitudes toward the course were measured using the Illinois

course Evaluation Questionnaire. Students were asked to give unidentified weekly estimates of the amount of time devoted to the course. The reference librarian provided a record of checked-out readings which was used to compare the amount of reading completed by the two groups. An attitude instrument developed by the researcher was used to yield scores which indicated the perceptions of students regarding the extent to which the course met their individual needs.

Findings. There was no statistically significant difference in the posttest scores of the conventionally graded and contract graded students either quarter. Students contracting for grades autumn quarter did not receive significantly higher final grades than the conventionally graded students. However, in the winter quarter replication, the grades received by contract graded students were significantly higher than the final grades of the conventionally graded students. No significant differences were found between the groups of students in attitudes toward the course, time spent on the course, amount of reading completed, or the extent students perceived the course to meet their individual needs.

34. NOWATZKI, John F., A Readership Profile of North Dakota Farm Research Bimonthly Bulletin. Colloquium Paper, M.S., 1973, North Dakota State University. 32p., Department of Agricultural Education, North Dakota State University, Fargo.

Purpose. To develop a profile of the readers of North Dakota Farm Research Bimonthly Bulletin and to determine how much of the bulletin was read and the readers' reactions to certain aspects of the publication.

Method. The writer prepared a questionnaire which was mailed with the publication to all the persons on the mailing list. A card reminding subscribers to return their questionnaire was included in the succeeding issue of the Bulletin. A follow-up study of the instate farm subscribers who had not returned the orignial questionnaire was done by mailing them an explanatory letter and a copy of the original questionnaire. The data obtained from the returned questionnaires were summarized in tabular form.

Findings and Interpretations. Most of the respondents were between the ages of 31 and 60. Fewer of the farm respondents than the nonfarm respondents were 30 years of age or younger. Most of the nonfarm respondents held a baccalaureate degree, while almost two-thirds of the farm respondents had not gone beyond high school. More than 90 percent of the farm respondents raised some cash grain crop, and two-thirds raised at least some livestock. More than two-thirds of the farm respondents operated farms comprising 500 to 1,000 acres. There were 2,186 (15.7 percent) of the total mailing list usuable questionnaires returned. This number included the 252 usuable questionnaires returned as part of the follow-up study. The 252 follow-up questionnaires returned represented 30.3 percent of the follow-up questionnaires mailed. The respondents' attitudes toward the reading level of the Bulletin were distinctly favorable. Respondents' attitudes toward the number of pictures used in the Bulletin suggested the Bulletin contained the right number of pictures. About one-third of the respondents indicated their spouses were reading the Bulletin.

35. SaLOUTOS, Charles T., Effects of Instruction on the Ability of Experienced and Inexperienced Teachers to Classify Classroom Verbal Interaction, Dissertation, Library, University of Missouri, Columbia, 1973.

Purpose. The purpose of this study was: (1) to determine the relative effects of varying amounts of experience in the proper use of Flanders' Interaction Analysis Technique (FIAT) on the ability of experienced and inexperienced teachers to correctly classify verbal behavior in the classroom as compared with an expert panel, (2) to determine whether or not inexperienced and experienced teachers, with a minimum amount of instruction, learn to make valid use of FIAT, and (3) to determine whether or not teachers become more proficient in using FIAT with successively increased amounts of instruction.

Method. The study was conducted with 20 experienced teachers and 20 perspective teachers from the teacher education program at the Wisconsin State University, Platteville. The experienced and inexperienced treatment groups were randomly drawn from the population of the teachers. Twenty teachers were assigned to each group. The population of experienced teachers was comprised of all the teachers who were cooperating teachers in the teacher education program. Student teachers, both elementary and secondary who were enrolled during the fall semester of 1971, constituted the population of inexperienced teachers.

A panel of experts was used as a reference group for the purpose of making comparisons with the two groups of teachers. The experts consisted of four professional educators, three from the University of Wisconsin, Madison and one from Illinois State University, Normal. They were selected for their ability to correctly classify classroom verbal interaction using Flanders' Interaction Analysis Technique (FIAT).

Teachers in the two treatment groups met for four different meetings at Wisconsin State University, Platteville. The primary objective of the in-service instruction was to increase the skill of teachers in coding with FIAT. The instruction consisted of four two-hour sessions designed to explain FIAT by reviewing the ten categories, listening and coding the Flanders' experimental test tape, checking the coding of Flanders' coding key, and discussing FIAT.

The data obtained from the test tape were punched on IBM computer data cards. The Wisconsin State University, Platteville Computer Center was used to process the data. Chi-square was used to test all five of the research hypotheses.

Findings.

(1) There were no associations between the ability of expert coders and experienced teachers to correctly classify classroom verbal interaction after two, four, six, and eight hours of instruction using FIAT.

(2) There were no associations between the ability of expert coders and inexperienced teachers to correctly classify classroom verbal interaction after two, four, six, and eight hours of instruction using FIAT.

(3) There was an association between the patterns of experienced teachers and inexperienced after two, four, six, and eight hours of instruction in the use of FIAT.

(4) The instructional period to teach experienced teachers of the type used in this study to correctly classify classroom verbal interaction using FIAT should be longer than eight hours.

36. SHANE, James A., Administrative Organizational Structures and Community College Comprehensiveness. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. To determine the kinds of administrative organizational structures being used in community colleges, and to study in greater detail a selected sample of community colleges in order to ascertain whether certain patterns of organization were more highly associated with community college curriculum comprehensiveness.

Method. The major hypothesis of the study was that community colleges which had an administrative organizational structure with deans in charge of each of the three instructional areas would be more comprehenisve than community colleges with other types of administrative organizational structures. The investigator identified seven alternative hypotheses which were tested.

The investigator completed an on-site structured interview of 18 community colleges in the states of Washington and Oregon to gather data.

Findings. No significant difference was found between organizational structures and curriculum comprehensiveness. Curriculum comprehensiveness was not significantly related to size of college enrollment, socioeconomic heterogeniety of the communities, age of the college, presidential attitude toward comprehensiveness, state level leadership, state funding patterns, or the amount of local control.

Some serendipitous findings of the investigation were: (1) most of the community college presidents were at one time public school superintendents, (2) all of the community college presidents and first-level administrators in the study began careers in education as public school teachers, (3) there was a limited number of presidents and first-level administrators with occupational backgrounds, (4) there was a significant relationship between president attitudes and first-level administrator attitudes toward comprehensiveness, (5) there was no significant relationship between the vocational effort of the college and its ranking as to comprehensiveness, (6) there was no significant difference between the vocational effort of the college and type of organizational pattern used.

37. SHIPLEY, Willis Edward, A Study of Agricultural Mechanics Knowledges and Skills Needed by Entry-level Employees in Ornamental Horticultural Occupations and Recommended Levels for Teaching These Knowledges and Skills. Ed.D., Thesis, 1972, Library, University of Illinois, Urbana.

Purpose. The primary purposes of this study were:

1. To develop and validate a list of agricultural mechanics knowledges and skills needed for entry-level employment in the following ornamental horticultural occupational areas: nursery management, greenhouse management, turf management, and landscape management.

2. To determine the appropriate educational level at which these agricultural mechanics knowledges and skills should be taught.

Procedure. The population for this study consisted of 53 public secondary school horticultural instructors teaching one or more state approved and funded horticultural classes in the state of Illinois. A stratified random sample of 20 horticultural instructors was selected to participate.

Horticultural business managers representing four horticultural occupational areas in Illinois were identified, and ten of these managers were selected by the state of Illinois ornamental horticultural advisory council to participate.

A survey questionnaire was administered to the two groups. An analysis of variance, a t-test, and a frequency count were used to analyze the data.

Findings and Conclusions.

A. Of the 85 agricultural mechanics knowledges and skills, 15 were rated "essential" and were found to be common to four occupational areas. These 15 knowledges and skills were found in the mechanical areas of hand tools, power and machinery, and soil and water management.

B. Of the 85 agricultural mechanics knowledges and skills, 38 were rated "highly desirable" and were found to be common to four occupational areas. These 38 knowledges and skills are found in the mechanical areas of hand tools, metal work, power and machinery, soil and water management, and buildings and structures.

C. Of the 85 agricultural mechanics knowledges and skills, 32 were rated "desirable" and were found to be common to four occupational areas. These 32 knowledges and skills were found in the mechanical areas of hand tools, metal work, electricity, and buildings and structures.

D. Recommended grade levels for teaching agricultural mechanics knowledges and skills were as follows: hand tools, grades 7-12; metal work, grades 9-12; electricity, grades 9-12; power and machinery, grades 9-14; soil and water management, grades 9-14; buildings and structures, grades 9-14.

E. Significant differences were observed between the agricultural mechanics knowledges and skills needed for entry-level employment in nursery management compared with greenhouse management, turf management

compared with landscape management, and nursery management compared with turf management.

38. STANLEY, Norman M., Factors Related to Decisions Made by High School Graduates Concerning Post-High School Education. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. To identify factors which were related to the decisions of rural male graduates to attend or not attend post-secondary institutions.

Method. The dependent variable investigated was the decision of the rural male graduate to attend or not attend a post-secondary institution. Major independent variables were personal characteristics, influences of the home environment, characteristics of high school environment, friends and peer influence, financial situations of the graduate and his parents, the influence of the military draft and the GI Bill provisions, and contributing influences of teachers, guidance counselors, and administrators.

Of particular interest in the school category of variables was the extent to which studying or not studying vocational agriculture related to the decision to attend post-secondary institutions.

The study was conducted in eight Ohio rural high schools located in two different geographic regions of the state. The 394 male graduates of the class of 1970. A total of 154 graduates of the 291 graduates sampled responded in this study.

Findings. The higher the accumulative grade point average in high school the more likely the student would attend a post-secondary institution. The post-high school students indicated a higher degree of uncertainity of their abilities, aptitudes and job opportunities upon graduation from high school than did the noncollege students.

Certain parental characteristics showed a high relationship with the decision to attend college. The mother was found to be the more influential of the two parents. The higher the parents level of education and the higher the classification of the father's occupation the more likely the high school graduate would go to college.

The type of high school curriculum completed was a good indicator of post-high school attendance (the college preparatory being most strongly related to the post-high school decision).

The variables peer influence and parental influence were indicated as having a strong degree of relationship with the dependent variable.

No difference was found between the decisions of vocational agriculture graduates to attend college and nonvocational agriculture graduates.

39. STARLING, John T., Farm Business Analysis Report of Programs Conducted by Teachers of Vocational Agriculture. Staff Study, 1973, The Ohio State University, Columbus.

Purpose. To provide teachers of agricultural production courses with some "bench marks" relative to certain efficiency factors and to keep them informed of "what is happening on Ohio farms."

Method. Ohio teachers who were conducting Farm Business Planning and Analysis programs submitted 243 farm business summaries for computer analysis. Averages of several selected measures of performance from the farm business analysis were used to secure the data for this study.

Findings. The major findings of this study were as follows:

1. The average capital investment per farm was $132,740.00.
2. The average gross income was $59,395.00.
3. The return to operator and family labor and management was $4.67 per hour.
4. When all costs were included farmers only realized a profit of .13¢ per bushel from corn.
5. Soybeans made Ohio farmers more money than any other grain crop.
6. Farmers actually lost money on wheat.
7. Producing alfalfa has considerable potential as a money-making crop for Ohio farmers.
8. In general, beef cattle feeders made very little money in 1972 while both swine breeding and feeding operations made money.
9. The pounds of 3.5 percent milk sold per cow, milk production cost per cwt., returns per dollar feed fed, and labor and management income per man equivalent were most favorable at the 61 to 75 cow herd size.

Even though the average gross income was $59,395.00 there were 40 percent of the farms with a gross income below $40,000.00. Farmers needed a gross income of $40,000.00 in order to have an adequate amount of money for family living, debt repayment and expansion of the business.

40. STREIT, Les D., A Survey of Instructional Media Utilized for Vocational Agriculture and FFA Contest Instruction in Kansas. Master's Thesis, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. The purpose of this study was to determine the instructional media and materials that vocational agriculture instructors utilize to prepare students for FFA and vocational agriculture contests. The problem

was designed to measure the educational value of contests, the instructional materials available for student preparation, the importance of instructional media and materials, frequency of media useage, available audiovisual equipment, competencies for equipment utilization, and money budgeted or spent for materials.

Method. A questionnaire was developed to collect data from vocational agriculture instructors in Kansas. The five questionnaire categories were: personal data; educational value; participation; and instructional materials available for vocational agriculture and FFA contests; importance and utilization of instructional media and materials; availability and competency to operate audiovisual equipment; and money spent on instructional materials. A total of 152 of a possible 173 questionnaires were returned or 87.9 percent.

Findings. The results of the study indicated that most contests were perceived as being valuable instructional activities. Those ranking most valuable were FFA Public Speaking, FFA Leadership School, Livestock Judging, and Agricultural Mechanics. The contests ranking high in educational value also had more instructional materials available for contest preparation. Traditional types of instructional media ranked higher in importance and were used most frequently than newer types of media. Most vocational agriculture instructors had traditional items of audiovisual available for use and could operate them. Instructors were spending approximately $320.00 per year on all instructional materials and 19 percent of this amount was spent for contest materials.

It was recommended that a cooperative effort be initiated to develop materials specifically designed for Kansas vocational agriculture curriculums. In-service training of teachers to utilize new types of instructional media and teaching techniques should be emphasized. It was also recommended that further studies be initiated to determine differences in teaching techniques and that the development of instructional materials be initiated in the form of highly visualized print materials, overhead transparancies, filmstrips and slides.

41. THAXTON, Louis C., Youth With Special Needs in the Columbus Public Schools. Dissertation, Ph.D., 1973, Library, The Ohio State University, Columbus.

Purpose. To determine some characteristics of youth with special needs (YWSN) in the Columbus Public Schools and some important aspects of vocational programs to serve their needs.

Method. The author identified 29 schools in the Columbus School System which had ninth-grade students. These schools were stratified according to the priority classification for Title I participation established by the school administration. Fifteen schools were randomly selected in proportion to the number in each strata. A ninth-grade class of students was randomly chosen from the required academic classes in each school.

Teachers using an instrument developed by James B. Hamilton identified YWSN and classified each according to major cause of disadvantage. The author used a ninth-grade questionnaire and The Ohio Vocational Interest Survey during group interview sessions to gather data relative to students' personal background, educational experiences, and occupational plans. The opinions of school staff personnel were also gathered.

Findings. Approximately one in four (23 percent) of the ninth-grade students in the Columbus School System were YWSN. The largest single group, 49 percent, were academically disadvantaged. Twenty-two percent were socially disadvantaged, 13 percent intellectually disadvantaged, six percent were economically disadvantaged, six percent were ethnically disadvantaged, and five percent were physically handicapped.

Among the background characteristics of YWSN which were significantly different from those of other ninth-grade youth were: age, place of origin, number of schools attended, and number of grades repeated, race and school location. Those characteristics related to the educational experiences of YWSN which were significantly different from other ninth-grade youth were the scores on the California Reading Test, scores on the California Mental Maturity Test, educational aspirations, number of school activities participated in, and interest in school work. No difference other than race and number of schools attended was found when YWSN were studied in respect to inner or outer city school location.

Fifty-eight percent of the educators queried indicated that education programs for YWSN was "highly important." Special occupational education programs for the disadvantaged was chosen by educators from four types of occupational programs as their first choice program for YWSN.

42. THOMAS, Hollie B., GRANT, James E., and HARRIS, Everett. Renewal of Currently Employed Teachers as Teachers of Applied Biological and Agricultural Occupations. Staff Study, 1973. University of Illinois, Urbana.

Purpose. The major purpose of the project was to establish programs in the Illinois metropolitan areas designed to match the interests of students and the employment needs of business/industry requiring knowledges and skills that are of an applied biological or agricultural nature by renewal of currently employed metropolitan science teachers.

Method. The project included four major phases: (1) designing appropriate workshop experiences, (2) recruiting participants, (3) conducting the workshops, and (4) evaluating the workshop experiences.

The development of the workshop experiences was a joint activity of both the enrollees and the project staff. The agenda included a sequence of learning events resulting in the development of, and the plans for implementing, some aspect of a program in applied biological occupations by each participant for his school. The learning events included developing

a rationale for a local program of applied biological occupations, identifying the knowledges and skills and competency levels appropriate for secondary students that will provide opportunities for employment in applied biological occupations, identifying appropriate curriculum and instructional resources, and identifying appropriate laboratory experiences.

The target population for the workshop was the science teachers in metropolitan Chicago and East St. Louis secondary schools. Key administrators for the Chicago Public Schools and Metropolitan East St. Louis were contacted by the project staff. A promotional brochure was developed by the project staff and mailed to administrative units in Cook, DuPage, Lake,and St. Clair counties.

A series of 11, three-hour sessions were scheduled to begin during the week of January 15, 1973.

The workshop evaluation consisted of the participants' proposals and a participant self-rating questionnaire developed by the project staff. The instrument was administered as a pretest during the first session and as a posttest at the conclusion of the workshop.

Results. A greater number of participants than expected in the Chicago area required two workshop locations in suburban Chicago--Country Club Hills and Palatine. A third group met in downtown Chicago. A total of 62 teachers participated in the workshops. The East St. Louis area workshop was cancelled because of inadequate preregistration response.

The plans developed by the participants for implementing some aspect of a program in applied biological occupations ranged from introducing a "mini course in landscaping" for a ninth-grade biology class of slow learners to reorienting an existing high school science curriculum. In most situations where more than one teacher from a school was enrolled in a workshop, the teachers teamed up to develop a single plan for some aspect of applied biological occupations. During the workshop, participants collected data on local student interests, occupational opportunities, wrote course outlines and performance objectives,and submitted proposals to curriculum committees.

Conclusions. The workshops in applied biological and agricultural occupations were judged to be quite effective in making metropolitan science teachers aware of the career opportunities that exist in the metropolitan areas. Most of the participants indicated they would be initiating new programs or including some aspect of applied biological occupations in their existing programs. The participants expressed a need to acquire appropriate occupational technical knowledge and skills.

43. TROTTER, Eugene Edmund., A Study of Selected Competencies Performed by Agricultural Occupations Student Teachers During a Summer Experience Program. Ed.D., Thesis, 1972, Library, University of Illinois, Urbana.

Purpose. To determine the change that took place in student teachers' perceived ability to perform selected competencies deemed necessary for beginning teachers of agricultural occupations, as a result of a summer experience program; to determine the relationship between the perception of the student teachers and that of the cooperating teachers on the ability of the student teachers to perform the selected competencies; and to determine the relationship between the perception of the student teachers to perform selected competencies and the importance the cooperating teachers placed on the selected competencies.

Procedure. The population consisted of 16 agricultural occupations student teachers enrolled in a summer experience program and the 11 agricultural occupations cooperating teachers involved in the program in 1972. The sample included 100 percent of the population.

Based on the 12 course objectives for the summer experience program, a list of 71 competency statements was compiled for use as the data collecting instruments in this study. Two scales were developed for the 71 competency statements. One scale yielded a confidence measure of the student teachers' perceived ability to perform each of the selected competenices. The mailed instruments were administered to the student teachers as a pretest prior to the experience program and as a posttest immediately following the experience program. The cooperating teachers were asked to rate the student teachers' ability to perform each of the competencies following the experience program. The other scale was used to obtain an importance rating prior to the summer experience program. The cooperating teachers were asked to rate the importance of each competency as needed by a beginning agricultural occupations teachers.

For purposes of testing three general hypotheses and presenting the findings, each hypothesis included 12 subhypotheses that paralleled the 12 course objectives for the summer experience program and their respective contributing teacher competencies.

The t-test and the Pearson product-moment correlations were used to analyze the data. The results of the analyses were used to test the hypotheses.

Findings and Conclusions. There were 69 teacher competencies that had higher posttest mean scores than pretest mean scores indicating a positive change in the student teachers' perceived ability to perform selected competencies deemed necessary for beginning teachers of agricultural occupations. However, the progress was significant at the .01 or .05 levels for only 12 competencies. The progress made by student teachers on 13 additional competencies was significant at the .10 level. Significant changes in the student teachers' perceived ability to perform competencies were found in areas pertaining to helping and assisting with FFA activities, working with students concerning their supervised experience programs, working with adult programs, working with advisory councils, and becoming acquainted with related agencies in agricultural education.

There were six teacher competencies that had correlation coefficients significant at the .10 or greater level pertaining to the student teachers'

ability to perform the selected competencies as rated by both the cooperating teachers and student teachers following the experience program. Agreement between the two groups was found for the student teachers' ability to participate in school and community activities and to communicate with people in the school and community.

There were ten correlation coefficients which were significant at the .10 or greater level pertaining to the importance ratings by the cooperating teachers and the ratings from the student teachers concerning their perceived ability to perform the competencies. This situation was found for areas pertaining to assisting students in experiences concerning nonfarm jobs requiring knowledge and skills in agriculture, working with advisory councils and adult programs, and participating in school and community activities.

44. YOUNG, Richard E., Professional Improvement Opportunities for State Extension Faculty in 15 States. Staff Study, July 1972, Ohio Cooperative Extension Service, The Ohio State University, Columbus.

Purpose. To determine educational benefits provided for extension personnel.

Method. A survey of professional improvement policies and procedures as related to state level extension faculty, and in states reasonably comparable to Ohio, was conducted for the Professional Improvement Committee of the Ohio Extension Professors' Association in the Spring of 1972. A two-page questionnaire was sent to the extension training leader in each of 15 states; responses were received from all states.

Findings. All states permitted and encouraged their state extension faculty to attend professional conferences, workshops and related activities out of state without taking vacation time. Only one state said that no expense allowance was provided.

Thirteen states provided faculty with leave with pay for credit courses; ten provided it for noncredit study or research. Some states had fairly rigid policies which varied among states, while others had more flexible policies. Three states mentioned the availability of special financial aid for extension workers.

About half the states had arrangements for providing technical help for state extension faculty members. Tasks which they performed included library research, preparation of instructional materials, work in soil testing laboratories, and help with field days. There seemed to be interest in further exploitation of this possibility.

In 12 of the 15 responding states, state extension faculty were required to pay fees for formal course work, though in two or three of those cases at substantially reduced rates.

Fee waivers for family members of state extension faculty were not available at any of the responding schools.

45. YOUNG, Richard E., SEMIS Statistical Evaluation, First Phase Analysis. Staff Study, October 1972, Ohio Cooperative Extension Service, The Ohio State University, Columbus.

Purpose. Professional extension workers in Ohio report their activities each month. Data are coded onto forms that are optically scanned for input to a computer program. These statistical data make up part of a State Extension Management Information System (SEMIS) which is compatible with a national system (EMIS).

In an effort to improve the system, two revisions were introduced in July 1972. The first of these was the use of task numbers, a data element that makes it possible to report a variety of kinds of activities that may be worked on by more than one person, to an identified unit of work. The second was a new monthly code sheet that had the identification portion preprinted.

A study was initiated to evaluate reaction of extension professionals and their secretaries to these two revisions. This report summarized the first phase which was conducted after the first monthly reports were submitted following the initiation of the changes.

Method. A random sample of 100 professionals was drawn from the total roster. Two copies of the instrument were sent to each person, one for him (her) and one for his (her) secretary to complete. The instrument consisted of two semantic differential devices; one to measure attitudes toward task numbers, and the other to measure attitudes toward the new monthly report form. A 75 percent response was obtained from secretaries while 50 percent of the faculty returned instruments.

Findings. Overall there was no difference between faculty and secretaries as both responded with attitude scores that defined neutral, or slightly positive feelings. There seemed to be slightly more favorable attitudes toward the report form than toward task numbers.

More specifically, regarding attitudes toward task numbers, faculty felt task numbers were dispensible while secretaries felt they were helpful but (somewhat contrary) also dispensible. More specific findings regarding the new monthly report form showed that faculty felt it was helpful, desirable, productive and practical. Secretaries felt the form was helpful and easy.

46. ZAHN, Dennis Gilbert, A Comparison of Four Units of Instructional Material and Test Scores for the Pesticide Certification Examination in Kansas. Master's Report, M.S., 1973. Library, Kansas State University, Manhattan.

Purpose. Since the passage of Kansas Pesticide Users Law, (1970) educators were called on to provide training for various groups who may choose to become qualified to apply pesticides in Kansas after January 1, 1973. The purpose of the study was to compare and evaluate units of

instructional material available in Kansas to educate pesticide applicators toward state certification for licensing.

Method. Four groups were used in the comparison of the four different units of instructional material. The research population was obtained by random sampling of the people that used the four different units of instructional material.

The study was limited to a 12-month period and included only students from Liberal Area Vocational and Technical School (LAVTS) that used the four different units of instructional material. The units were (1) Kansas Pesticide Users Manual (1972) by Kansas Extension Chemical Task Force, (2) Study Guides consisting of VI Section (1972) by Weed and Pesticide Division of the Kansas State Department of Agriculture (KSDA) and (3) and (4) Agricultural Chemical Special and Agricultural Chemical Regular courses, both arranged by the LAVTS instructors, Kenneth Schuster and his assistant.

Upon completion of the period of study, the research population was given an examination by the Weed and Pesticide Division of KSDA, containing the required competencies of a pesticide applicator.

Findings. The findings showed no difference in the average scores of the groups taking the different units of instructional material. There were some slight differences in scores within different sections which indicated some areas that needed strengthening within the units.. A difference was also shown in attitude and desire of the individual who needed to be qualified. The motivating forces were always determining factors.

The results of the data convinced the writer that studies can do much to inform educators of the validity of their instructional materials. The four groups tested indicated the importance of the role of formal education in the certification of future pesticide applicators. If agricultural departments could have access to the studies concerned with all phases of pesticides (safety first, proper application, chemistry, etc.), adaptations in the courses of study could be made to much better meet the needs of the community and the state.

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HT:mjc